

The present Office Action maintains the rejections of claims 1-19 from the previous Office Action (mailed March 28, 2002), and extends the rejections to newly added claims 20-29. Applicants respectfully submit that the remarks presented in the previous Response to Office Action (mailed May 15, 2002) remain valid and incorporate those comments by reference to preserve them for appeal. Applicants respond to the Response to Arguments section of the present Office Action below.

The present Office Action alleges that "Applicant's arguments failed to comply with 37 CAR [sic] 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them over the references" (Office Action, page 2, paragraph 2a). Applicants respectfully disagree. The previous Response includes a detailed discussion of Naven (beginning on page 6, second paragraph and ending on page 7, third paragraph) which highlights the teachings of Naven and explains why these teachings do not teach or suggest specific combinations of claim features. These paragraphs also specifically highlight the claim features being relied on (see e.g., page 7, third paragraph), quoting portions of the claim and using underlining to further highlight specific features. With regard to claim 9, claim features are highlighted which are similar to the features highlighted for claim 1, and thus the same arguments apply. Applicants also highlighted features of newly added claim 20 which are not taught or suggested in Naven.

The present Office Action goes on to allege that "it appears that applicant fail to (fully) consider the cited portions of the reference (to Naven) that forms/supports the basis of the first office action rejection as such cited passages have not been argued by applicant" (Office Action, page 2, first paragraph after paragraph 2a, extending to page 3). Applicants respectfully disagree. Applicants amended claim 1 to include the features of claim 2. Applicants argued the most relevant passages cited in the rejection of claim 1 (since the rejection of claim 2 referred to the same passages), namely col. 4, lines 29-54. It appears that the present Office Action is referring to the other passages appended,

almost as an afterthought, to the claim 1 discussion (the abstract, col. 1, lines 21-39, col. 2, lines 1-29, and claim 1). These passages are even less relevant to the claim language than col. 4, lines 29-54, and thus Applicants considered these passages but saw no need to argue them specifically. However, Applicants address these additional passages below.

The abstract describes "receiving data from an ATM network, [and] a data storage circuit 38 for allocating preselected virtual channels of the network with respect to corresponding storage regions (5r) in a local memory (5)" (Naven, abstract, lines 1-4). "The data storage circuit 38 stores those [data items belonging to different preselected virtual channels] in the storage regions that correspond respectively to the items' virtual channels" (Naven, abstract, lines 6-10). The transfer of data items from the local memory 5 to other apparatus 7 may thus be performed in a different channel order than the order of receipt (Naven, abstract, lines 10-15). Thus, the abstract merely describes the receipt of data items, the storage of data items by virtual channel, and the forwarding of the data items to other apparatus in a different order. There is no discussion of control packets and data packets in Naven's abstract, nor of a plurality of control packet buffers and a separate plurality of data buffers. This does not teach or suggest:

receiving a first control packet in a first node of said plurality of nodes,
said first node comprising a plurality of control packet buffers,
each of said plurality of control packet buffers assigned to a
different one of a plurality of virtual channels;
determining a first virtual channel of said plurality of virtual channels to
which said first control packet belongs;
storing said first control packet in a first control packet buffer of said
plurality of control packet buffers, said first control packet buffer
assigned to said first virtual channel;
receiving a first data packet specified by said first control packet; and
storing said first data packet in a first data buffer of a plurality of data buffers
within said first node, each of said plurality of data buffers assigned to a
different one of said plurality of virtual channels which includes at least
one control packet which specifies a corresponding data packet

as recited in claim 1.

At col. 1, lines 21-29, Naven describes ATM cells as including 48 bytes of data and a 5 byte header that includes control information. However, Naven does not describe storing the header information in one set of buffers and the data payload in another set of buffers. While the data payload is stored in the local memory 5, the header information is not described as being stored. Instead, Naven teaches "The header portion HEAD is supplied to the address detection circuit 34, whilst the payload portion PAYL is supplied to the data storage circuit 38. The address detection circuit 34 takes the VPI/VCI fields of the header portion HEAD and forms a pointer address PADD by concatenating the least significant P bits of the VPI field and the least significant C bits of the VCI field. The pointer address PADD is supplied to the address translation circuit 36 which uses the pointer address to read, from the pointer storage region 5p, the pointer for the virtual channel to which the cell belongs" (Naven, col. 11, lines 45-56). Thus, the header portion is processed to find a pointer to store the data, but apparently is not stored in a set of buffers by virtual channel. These teachings do not teach or suggest the above highlighted features of claim 1.

At col. 1, lines 30-39, Naven describes the virtual paths and virtual channels defined for the ATM networks, and the VCI and VPI fields in the header to identify the virtual channel and virtual path. Nothing in this section teaches or suggests the above highlighted features of claim 1.

Similar to the abstract, Naven's col. 2, lines 1-29 describes a data receiving device for receiving ATM data, a data storage means for storing data on a virtual channel basis, and transferring the data out in a different channel order than received. Additionally, col. 2, lines 1-29 further describes high priority and low priority channels for data items. Still further, col. 2, lines 1-29 describes a receive queue that adds an entry for a virtual channel after one or more data items are stored to that virtual channel, for transferring data to another apparatus. Again, this discussion is focused on the handling of data items. There is no discussion of control packets and data packets, nor of control packet buffers and separate data buffers. Naven's claim 1 describes an apparatus similar to the

discussion of col. 2, lines 1-29 and does not appear to include any additional teachings over col. 2, lines 1-29.

As highlighted in the previous Response to Office Action, Naven teaches storing only data items in data buffers, controlled by locally-generated, not received, control information. Naven processes the headers of ATM cells to locate buffers to store the data items, but does not store the headers in separate buffers (according to the virtual channel of the corresponding packet) from the data items. Accordingly, nothing in any of the sections of Naven cited with respect to claims 1 and 2 teaches or suggests the combination of features recited in claim 1:

receiving a first control packet in a first node of said plurality of nodes,
said first node comprising a plurality of control packet buffers,
each of said plurality of control packet buffers assigned to a
different one of a plurality of virtual channels;
determining a first virtual channel of said plurality of virtual channels to
which said first control packet belongs;
storing said first control packet in a first control packet buffer of said
plurality of control packet buffers, said first control packet buffer
assigned to said first virtual channel;
receiving a first data packet specified by said first control packet; and
storing said first data packet in a first data buffer of a plurality of data buffers
within said first node, each of said plurality of data buffers assigned to a
different one of said plurality of virtual channels which includes at least
one control packet which specifies a corresponding data packet

Applicants submit that claim 1 is patentable over Naven for at least the above stated reasons.

Claim 9 recites a combination of features including:

a first node configured to transmit a first control packet; and
a second node coupled to receive said first control packet from said first node,
wherein said second node comprises a plurality of control packet buffers,
and wherein each of said plurality of control packet buffers is assigned to
a different one of a plurality of virtual channels, and wherein said second
node is configured to store said first control packet in a first control packet
buffer of said plurality of control packet buffers responsive to a first
virtual channel of said plurality of virtual channels to which said first

control packet belongs, and wherein said second node further comprises a plurality of data buffers, each of said plurality of data buffers assigned to a different one of said plurality of virtual channels which includes at least one control packet which specifies a corresponding data packet, and wherein said first node is configured to transmit a first data packet specified by said first control packet, and wherein said second node is configured to store said first data packet in a first data buffer of said plurality of data buffers, said first data buffer assigned to said first virtual channel.

The above highlighted features of claim 9 are similar to the above highlighted features of claim 1, and thus are similarly patentable over Naven for at least the above stated reasons.

Claim 22 recites a combination of features including:

a plurality of control packet buffers, wherein each of said plurality of control packet buffers is assigned to a different one of a plurality of virtual channels;
a plurality of data buffers, each of said plurality of data buffers assigned to a different one of said plurality of virtual channels which includes at least one control packet which specifies a corresponding data packet; and
circuitry configured to store said first control packet in a first control packet buffer of said plurality of control packet buffers responsive to a first virtual channel of said plurality of virtual channels to which said first control packet belongs, and further configured to store said first data packet in a first data buffer of said plurality of data buffers, said first data buffer assigned to said first virtual channel.

The above highlighted features of claim 20 are similar to the above highlighted features of claim 1, and thus are similarly patentable over Naven for at least the above stated reasons.

The present Office Action further alleges that "Applicant's arguments do not comply with 37 CAR [sic] 1.111C because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited" (Office Action, page 3, paragraph 2b). Applicants respectfully

disagree. Applicants have clearly highlighted specific combinations of claim features which define a patentable novelty over Naven. Applicants have explained why Naven does not teach or suggest these combinations of features. Thus, Applicants have clearly pointed out a patentable novelty.

For at least all of the above stated reasons, Applicants submit that claims 1, 9, and 20 are patentable over Naven. Each of the dependent claims is similarly patentable over Naven for at least the above stated reasons as well. Each of the dependent claims recites additional combinations of features not taught or suggested in Naven.

For example, each of claims 20, 21, and 29 recites a combination of features including: "each control packet included in at least one virtual channel of said plurality of virtual channels does not specify a data packet, and wherein none of said plurality of data buffers is assigned to said at least one virtual channel". These features are not taught or suggested in Naven. The above highlighted features do not appear to be treated in the present Office Action. Naven teaches ATM packets, which have a fixed size including 48 bytes of data and 5 bytes of header (Naven, col. 1, lines 24-29). Thus, Naven does not teach or suggest "each control packet included in at least one virtual channel of said plurality of virtual channels does not specify a data packet" since all ATM packets have data. Furthermore, Naven does not teach or suggest "none of said plurality of data buffers is assigned to said at least one virtual channel".

Claim 6 recites a combination of features including: "determining that said first control packet belongs to a non-posted command virtual channel". Claim 7 recites a combination of features including: "determining that said first control packet belongs to a probe virtual channel". Claim 8 recites a combination of features including: "determining that said first control packet belongs to a response virtual channel". With regard to claims 6-8, the present Office Action alleges that "Naven discloses determining a particular virtual channel to which a particular packet or control information belongs...therefore, Naven at least implicitly discloses the limitations of the claims 6-8 since the reference does limit the virtual channels any particular types". Applicants

respectfully disagree. For a reference to anticipate a claim, the reference must teach each and every feature of the claim. Naven does not implicitly disclose the specific virtual channels described above. The lack of limitation of the reference to any particular type does not make the teachings of specific types implicit. Furthermore, Naven explicitly discloses the ATM virtual channels (see, e.g., col. 1, lines 29-39), which are merely virtual channels identified by a number (and are not the specific types described in claims 6-8). Naven does not teach or suggest any other type of virtual channel. Thus, Naven does not teach or suggest the above highlighted features of claims 6-8.

CONCLUSION

Applicants submit the application is in condition for allowance, and an early notice to that effect is requested. If any fees are due, the Commissioner is authorized to charge said fees to Conley, Rose, & Tayon, P.C. Deposit Account No. 501505/5500-46300/LJM.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☒ Fee Authorization Form authorizing a deposit account debit in the amount of \$320 for fees (Notice of Appeal Fee).
- ☒ Other: Notice of Appeal

Respectfully submitted,



Lawrence J. Merkel
Reg. No. 41,191
AGENT FOR APPLICANT(S)

Conley, Rose & Tayon, P.C.
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 476-1400

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